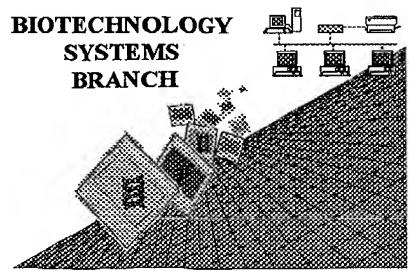


# RAW SEQUENCE LISTING

## ERROR REPORT

BIOTECHNOLOGY  
SYSTEMS  
BRANCH



The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following CRF diskette:

Application Serial Number:

09/084471  
01PE

Art Unit / Team No. :

Date Processed by STIC:

6/4/98

**THE ATTACHED PRINTOUT EXPLAINS THE ERRORS DETECTED.**

**PLEASE BE SURE TO FORWARD THIS INFORMATION TO THE APPLICANTS BY EITHER:**

**1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANTS ALONG WITH A NOTICE TO COMPLY or,**

**2) CALLING APPLICANTS AND FAXING THEM A COPY OF THE PRINTOUT WITH A NOTICE TO COMPLY**

**THIS WILL INSURE THAT THE NEXT SUBMISSION RECEIVED FROM THEM WILL BE ERROR FREE.**

**IF YOU HAVE ANY FURTHER QUESTIONS, PLEASE CALL:**

**ARTI SHAH 703-308-4212**

PAGE: 1

**RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/084,471**DATE: 06/04/98  
TIME: 15:52:12**INPUT SET: S26434.raw**

This Raw Listing contains the General Information Section and those Sequences containing ERRORS.

**SEQUENCE LISTING**1                   **(1) General Information**

2  
3  
4  
5                   (i) APPLICANT: Murphy, Patricia  
6                   White, Marga  
7                   Olson, Sheri  
8                   Yoshikawa, Matthew  
9                   Jackson, Geoffrey  
10                  Eskanderi, Tara  
11                  Schryer, Brenda  
12                  Park, Michael

Does Not Comply  
Corrected Diskette Needed

13  
14                  (ii) TITLE OF THE INVENTION: NOVEL CODING SEQUENCE HAPLOTYPES  
15                  OF THE HUMAN BRCA2 GENE

16  
17                  (iii) NUMBER OF SEQUENCES: 111 (see next page)

18  
19                  (iv) CORRESPONDENCE ADDRESS:

20                  (A) ADDRESSEE: Howrey & Simon  
21                  (B) STREET: 1299 Pennsylvania Avenue N.W.  
22                  (C) CITY: Washington  
23                  (D) STATE: DC  
24                  (E) COUNTRY: USA  
25                  (F) ZIP: 20004

26  
27                  (v) COMPUTER READABLE FORM:

28                  (A) MEDIUM TYPE: Diskette  
29                  (B) COMPUTER: IBM Compatible  
30                  (C) OPERATING SYSTEM: DOS  
31                  (D) SOFTWARE: FastSEQ for Windows Version 2.0

32  
33                  (vi) CURRENT APPLICATION DATA:

34                  (A) APPLICATION NUMBER:  
35                  (B) FILING DATE:  
36                  (C) CLASSIFICATION:

37  
38                  (vii) PRIOR APPLICATION DATA:

39                  (A) APPLICATION NUMBER:  
40                  (B) FILING DATE:

41  
42                  (viii) ATTORNEY/AGENT INFORMATION:

43                  (A) NAME: Halluin, Albert P

IMPORTANT:  
This file was not  
saved in ASCII (DOS)  
text, required by  
Sequence Rules. Please  
ensure your converted  
disk file is saved  
in ASCII text or  
the PTO will not  
process it.

09/084, 471

*Murphy  
JF/6  
JF/6*  
**(2) INFORMATION FOR SEQ ID NO:14:**

**(i) SEQUENCE CHARACTERISTICS:**

- (A) LENGTH: 20 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(A) NAME/KEY:

(B) LOCATION:

(D) OTHER INFORMATION: 2F primer

**(xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:**

TGAGTTTAC CTCAGTCACA

WHERE IS SEQ ID NO:15?

20

**(2) INFORMATION FOR SEQ ID NO:16:**

u Sequence 15 is deliberately omitted, use this format:

**(2) INFORMATION FOR SEQ ID NO:15:**

**(i) SEQUENCE CHARACTERISTICS:**

**(xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:**

This sequence has been deliberately omitted

Leave (iii) NUMBER OF SEQUENCES: response at 111

**RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/084,471**

DATE: 06/04/98  
TIME: 15:52:13

**INPUT SET: S26434.raw**

```

46      (B) REGISTRATION NUMBER: 25,227
47      (C) REFERENCE/DOCKET NUMBER: 5371.31.US02
48
49      (ix) TELECOMMUNICATION INFORMATION:
50          (A) TELEPHONE: 650-463-8109
51          (B) TELEFAX: 650-463-8400
52          (C) TELEX:
53
54

```

**ERRORED SEQUENCES FOLLOW:**

```

6733      (2) INFORMATION FOR SEQ ID NO:14:
6734
6735          (i) SEQUENCE CHARACTERISTICS:
6736              (A) LENGTH: 20 base pairs
6737              (B) TYPE: nucleic acid
6738              (C) STRANDEDNESS: single
6739              (D) TOPOLOGY: linear
6740
6741          (ix) FEATURE: ← insert after heading. It must appear or
6742              (A) NAME/KEY:
6743              (B) LOCATION:
6744              (C) OTHER INFORMATION: 2F primer
6745          Subheading → (D) OTHER INFORMATION: 2F primer
6746
6747          (xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:
6748      TGAGTTTAC CTCAGTCACA
6749

```

20

*the text will be considered  
erred*

(Edit Globally)

---

```
--> 6750      (2) INFORMATION FOR SEQ ID NO:16:
6751
6752          (i) SEQUENCE CHARACTERISTICS:
6753              (A) LENGTH: 41 base pairs
6754              (B) TYPE: nucleic acid
6755              (C) STRANDEDNESS: single
6756              (D) TOPOLOGY: linear
6757
6758
6759          (xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:
6760
6761      CAGGAAACAG CTATGACCCT GTGACGTACT GGGTTTTAG C
6762
```

41

---

```
6763      (2) INFORMATION FOR SEQ ID NO:17:
6764
6765          (i) SEQUENCE CHARACTERISTICS:
6766              (A) LENGTH: 24 base pairs
6767              (B) TYPE: nucleic acid
6768              (C) STRANDEDNESS: single
```

OK

RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/084,471DATE: 06/04/98  
TIME: 15:52:15

INPUT SET: S26434.raw

6769 (D) TOPOLOGY: linear  
6770  
6771  
---> 6772 (A) NAME/KEY:  
---> 6773 (B) LOCATION:  
---> 6774 (D) OTHER INFORMATION: 3FII primer  
6775  
6776 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:  
6777  
6778 GATCTTTAAC TGTTCTGGGT CACA  
6779

24

---

6780 (2) INFORMATION FOR SEQ ID NO:18:  
6781  
6782 (i) SEQUENCE CHARACTERISTICS:  
6783 (A) LENGTH: 22 base pairs  
6784 (B) TYPE: nucleic acid  
6785 (C) STRANDEDNESS: single  
6786 (D) TOPOLOGY: linear  
6787  
6788  
---> 6789 (A) NAME/KEY:  
---> 6790 (B) LOCATION:  
---> 6791 (D) OTHER INFORMATION: 3RII primer  
6792  
6793 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:  
6794  
6795 CCCAGCATGA CACAATTAAT GA  
6796

22

---

6797 (2) INFORMATION FOR SEQ ID NO:19:  
6798  
6799 (i) SEQUENCE CHARACTERISTICS:  
6800 (A) LENGTH: 44 base pairs  
6801 (B) TYPE: nucleic acid  
6802 (C) STRANDEDNESS: single  
6803 (D) TOPOLOGY: linear  
6804  
6805  
---> 6806 (A) NAME/KEY:  
---> 6807 (B) LOCATION:  
---> 6808 (D) OTHER INFORMATION: 4F/M 13F primer  
6809  
6810 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:  
6811  
6812 TGTAAAACGA CGGCCAGTAG AATGCAAATT TATAATCCAG AGTA  
6813

44

---

6814 (2) INFORMATION FOR SEQ ID NO:20:  
6815  
6816 (i) SEQUENCE CHARACTERISTICS:  
6817 (A) LENGTH: 22 base pairs  
6818 (B) TYPE: nucleic acid

ETC.

RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/084,471DATE: 06/04/98  
TIME: 15:52:16

INPUT SET: S26434.raw

6819 (C) STRANDEDNESS: single  
6820 (D) TOPOLOGY: linear  
6821  
6822  
--> 6823 (A) NAME/KEY:  
--> 6824 (B) LOCATION:  
---> 6825 (D) OTHER INFORMATION: 4R-1A primer  
6826  
6827 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:20:  
6828  
6829 ATCAGATTCA TCTTTATAGA AC 22  
6830

---

6831 (2) INFORMATION FOR SEQ ID NO:21:  
6832  
6833 (i) SEQUENCE CHARACTERISTICS:  
6834 (A) LENGTH: 40 base pairs  
6835 (B) TYPE: nucleic acid  
6836 (C) STRANDEDNESS: single  
6837 (D) TOPOLOGY: linear  
6838  
6839  
--> 6840 (A) NAME/KEY:  
--> 6841 (B) LOCATION:  
---> 6842 (D) OTHER INFORMATION: 5+6F/M13F primer  
6843  
6844 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:21:  
6845  
6846 TGTAAAACGA CGGCCAGTTG TGTTGGCATT TTAAACATCA 40  
6847

---

6848 (2) INFORMATION FOR SEQ ID NO:22:  
6849  
6850 (i) SEQUENCE CHARACTERISTICS:  
6851 (A) LENGTH: 38 base pairs  
6852 (B) TYPE: nucleic acid  
6853 (C) STRANDEDNESS: single  
6854 (D) TOPOLOGY: linear  
6855  
6856  
--> 6857 (A) NAME/KEY:  
--> 6858 (B) LOCATION:  
---> 6859 (D) OTHER INFORMATION: 5+6R/M13R primer  
6860  
6861 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:22:  
6862  
6863 CAGGAAACAG CTATGACCCA GGGCAAAGGT ATAACGCT 38  
6864

---

6865 (2) INFORMATION FOR SEQ ID NO:23:  
6866  
6867 (i) SEQUENCE CHARACTERISTICS:  
6868 (A) LENGTH: 38 base pairs

RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/084,471DATE: 06/04/98  
TIME: 15:52:18

INPUT SET: S26434.raw

6869 (B) TYPE: nucleic acid  
6870 (C) STRANDEDNESS: single  
6871 (D) TOPOLOGY: linear  
6872  
6873  
--> 6874 (A) NAME/KEY:  
--> 6875 (B) LOCATION:  
--> 6876 (D) OTHER INFORMATION: 7F/M13F primer  
6877  
6878 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:23:  
6879  
6880 TGTAAAACGA CGGCCAGTTA AGTGAAATAA AGAGTGAA  
6881

38

---

6882 (2) INFORMATION FOR SEQ ID NO:24:  
6883  
6884 (i) SEQUENCE CHARACTERISTICS:  
6885 (A) LENGTH: 36 base pairs  
6886 (B) TYPE: nucleic acid  
6887 (C) STRANDEDNESS: single  
6888 (D) TOPOLOGY: linear  
6889  
6890  
--> 6891 (A) NAME/KEY:  
--> 6892 (B) LOCATION:  
--> 6893 (D) OTHER INFORMATION: 7R/M13R primer  
6894  
6895 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:24:  
6896  
6897 CAGGAAACAG CTATGACCAAG AAGTATTAGA GATGAC  
6898

36

---

6899 (2) INFORMATION FOR SEQ ID NO:25:  
6900  
6901 (i) SEQUENCE CHARACTERISTICS:  
6902 (A) LENGTH: 40 base pairs  
6903 (B) TYPE: nucleic acid  
6904 (C) STRANDEDNESS: single  
6905 (D) TOPOLOGY: linear  
6906  
6907  
--> 6908 (A) NAME/KEY:  
--> 6909 (B) LOCATION:  
--> 6910 (D) OTHER INFORMATION: 8F/M13F primer  
6911  
6912 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:25:  
6913  
6914 TGTAAAACGA CGGCCAGTGC CATATCTTAC CACCTTGTGA  
6915

40

---

6934 (2) INFORMATION FOR SEQ ID NO:27:  
6935  
6936 (i) SEQUENCE CHARACTERISTICS:

PAGE: 6

**RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/084,471**

DATE: 06/04/98  
TIME: 15:52:19

**INPUT SET: S26434.raw**

6937 (A) LENGTH: 19 base pairs  
6938 (B) TYPE: nucleic acid  
6939 (C) STRANDEDNESS: single  
6940 (D) TOPOLOGY: linear  
6941  
6942  
--> 6943 (A) NAME/KEY:  
--> 6944 (B) LOCATION:  
--> 6945 (D) OTHER INFORMATION: 8RIA primer  
6946  
6947 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:27:  
6948  
6949 AATTGTTAGC AATTTCAAC  
6950

19

---

6951 (2) INFORMATION FOR SEQ ID NO:28:  
6952  
6953 (i) SEQUENCE CHARACTERISTICS:  
6954 (A) LENGTH: 40 base pairs  
6955 (B) TYPE: nucleic acid  
6956 (C) STRANDEDNESS: single  
6957 (D) TOPOLOGY: linear  
6958  
6959  
--> 6960 (A) NAME/KEY:  
--> 6961 (B) LOCATION:  
--> 6962 (D) OTHER INFORMATION: 9F/M13F primer  
6963  
6964 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:28:  
6965  
6966 TGTAAAACGA CGGCCAGTTG GACCTAGGTT GATTGCAGAT  
6967

40

---

6968 (2) INFORMATION FOR SEQ ID NO:29:  
6969  
6970 (i) SEQUENCE CHARACTERISTICS:  
6971 (A) LENGTH: 40 base pairs  
6972 (B) TYPE: nucleic acid  
6973 (C) STRANDEDNESS: single  
6974 (D) TOPOLOGY: linear  
6975  
6976  
--> 6977 (A) NAME/KEY:  
--> 6978 (B) LOCATION:  
--> 6979 (D) OTHER INFORMATION: 9R/M13R primer  
6980  
6981 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:29:  
6982  
6983 CAGGAAACAG CTATGACCTA AACTGAGATC ACGGGTGACA  
6984

40

---

6985 (2) INFORMATION FOR SEQ ID NO:30:  
6986

**RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/084,471**DATE: 06/04/98  
TIME: 15:52:21**INPUT SET: S26434.raw**

6987                   (i) SEQUENCE CHARACTERISTICS:  
6988                    (A) LENGTH: 24 base pairs  
6989                    (B) TYPE: nucleic acid  
6990                    (C) STRANDEDNESS: single  
6991                    (D) TOPOLOGY: linear  
6992  
6993  
--> 6994                   (A) NAME/KEY:  
--> 6995                   (B) LOCATION:  
--> 6996                   (D) OTHER INFORMATION: 10AF primer  
6997  
6998                   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:30:  
6999  
7000                   GAATAATATA AATTATATGG CTTA                   24  
7001

---

7002                   (2) INFORMATION FOR SEQ ID NO:31:  
7003  
7004                   (i) SEQUENCE CHARACTERISTICS:  
7005                    (A) LENGTH: 37 base pairs  
7006                    (B) TYPE: nucleic acid  
7007                    (C) STRANDEDNESS: single  
7008                    (D) TOPOLOGY: linear  
7009  
7010  
--> 7011                   (A) NAME/KEY:  
--> 7012                   (B) LOCATION:  
--> 7013                   (D) OTHER INFORMATION: 10AR/M13R primer  
7014  
7015                   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:31:  
7016  
7017                   CAGGAAACAG CTATGACCCC TAGTCTTGCT AGTTCTT                   37  
7018

---

7019                   (2) INFORMATION FOR SEQ ID NO:32:  
7020  
7021                   (i) SEQUENCE CHARACTERISTICS:  
7022                    (A) LENGTH: 42 base pairs  
7023                    (B) TYPE: nucleic acid  
7024                    (C) STRANDEDNESS: single  
7025                    (D) TOPOLOGY: linear  
7026  
7027  
--> 7028                   (A) NAME/KEY:  
--> 7029                   (B) LOCATION:  
--> 7030                   (D) OTHER INFORMATION: 10BF/M13F primer  
7031  
7032                   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:32:  
7033  
7034                   TGTAAAACGA CGGCCAGTAR CTGAAGTGGG ACCAAATGAT AC                   42  
7035

---

7036                   (2) INFORMATION FOR SEQ ID NO:33:

RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/084,471DATE: 06/04/98  
TIME: 15:52:23

INPUT SET: S26434.raw

7037  
7038       (i) SEQUENCE CHARACTERISTICS:  
7039        (A) LENGTH: 44 base pairs  
7040        (B) TYPE: nucleic acid  
7041        (C) STRANDEDNESS: single  
7042        (D) TOPOLOGY: linear  
7043  
7044  
--> 7045       (A) NAME/KEY:  
--> 7046       (B) LOCATION:  
--> 7047       (D) OTHER INFORMATION: 10BR/M13R primer  
7048  
7049       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:33:  
7050  
7051       CAGGAAACAG CTATGACCAC GTGGCAAAGA ATTCTCTGAA GTAA                  44  
7052

---

7071       (2) INFORMATION FOR SEQ ID NO:35:  
7072  
7073       (i) SEQUENCE CHARACTERISTICS:  
7074        (A) LENGTH: 19 base pairs  
7075        (B) TYPE: nucleic acid  
7076        (C) STRANDEDNESS: single  
7077        (D) TOPOLOGY: linear  
7078  
7079  
--> 7080       (A) NAME/KEY:  
--> 7081       (B) LOCATION:  
--> 7082       (D) OTHER INFORMATION: 10CRII primer  
7083  
7084       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:35:  
7085  
7086       AGACAGAGGT ACCTGAATC    19  
7087

---

7088       (2) INFORMATION FOR SEQ ID NO:36:  
7089  
7090       (i) SEQUENCE CHARACTERISTICS:  
7091        (A) LENGTH: 40 base pairs  
7092        (B) TYPE: nucleic acid  
7093        (C) STRANDEDNESS: single  
7094        (D) TOPOLOGY: linear  
7095  
7096  
--> 7097       (A) NAME/KEY:  
--> 7098       (B) LOCATION:  
--> 7099       (D) OTHER INFORMATION: 11AF-M13 primer  
7100  
7101       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:36:  
7102  
7103       TGTAAAACGA CGGCCAGTTG GTACTTTAAC TTTGTCACCT                          40  
7104

---

7105       (2) INFORMATION FOR SEQ ID NO:37:

**RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/084,471**

DATE: 06/04/98  
TIME: 15:52:25

**INPUT SET: S26434.raw**

7106  
 7107       (i) SEQUENCE CHARACTERISTICS:  
 7108        (A) LENGTH: 37 base pairs  
 7109        (B) TYPE: nucleic acid  
 7110        (C) STRANDEDNESS: single  
 7111        (D) TOPOLOGY: linear

7112  
 7113  
 ---> 7114       (A) NAME/KEY:  
 ---> 7115       (B) LOCATION:  
 ---> 7116       (D) OTHER INFORMATION: 11AR-M13 primer

7117  
 7118       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:37:

7119  
 7120       CAGGAAACAG CTATGACCTG CAGGCATGAC AGAGAAT

37

7122       (2) INFORMATION FOR SEQ ID NO:38:

7123  
 7124       (i) SEQUENCE CHARACTERISTICS:  
 7125        (A) LENGTH: 22 base pairs  
 7126        (B) TYPE: nucleic acid  
 7127        (C) STRANDEDNESS: single  
 7128        (D) TOPOLOGY: linear

7129  
 7130  
 ---> 7131       (A) NAME/KEY:  
 ---> 7132       (B) LOCATION:  
 ---> 7133       (D) OTHER INFORMATION: 11BF primer

7134  
 7135       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:38:

7136  
 7137       AAGAAGCAAA ATGTAATAAG GA

22

7139       (2) INFORMATION FOR SEQ ID NO:39:

7140  
 7141       (i) SEQUENCE CHARACTERISTICS:  
 7142        (A) LENGTH: 22 base pairs  
 7143        (B) TYPE: nucleic acid  
 7144        (C) STRANDEDNESS: single  
 7145        (D) TOPOLOGY: linear

7146  
 7147  
 ---> 7148       (A) NAME/KEY:  
 ---> 7149       (B) LOCATION:  
 ---> 7150       (D) OTHER INFORMATION: 11BR primer

7151  
 7152       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:39:

7153  
 7154       CATTTAAAGC ACATACATCT TG

22

7155  
 7156       (2) INFORMATION FOR SEQ ID NO:40:

**RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/084,471**

DATE: 06/04/98  
TIME: 15:52:26

**INPUT SET: S26434.raw**

7157  
 7158       (i) SEQUENCE CHARACTERISTICS:  
 7159        (A) LENGTH: 21 base pairs  
 7160        (B) TYPE: nucleic acid  
 7161        (C) STRANDEDNESS: single  
 7162        (D) TOPOLOGY: linear  
 7163  
 7164  
 --> 7165       (A) NAME/KEY:  
 --> 7166       (B) LOCATION:  
 --> 7167       (D) OTHER INFORMATION: 11CF primer  
 7168  
 7169       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:40:  
 7170  
 7171       TCTAGAGGCA AAGAACATA C                                  21  
 7172

---

7173       (2) INFORMATION FOR SEQ ID NO:41:  
 7174  
 7175       (i) SEQUENCE CHARACTERISTICS:  
 7176        (A) LENGTH: 22 base pairs  
 7177        (B) TYPE: nucleic acid  
 7178        (C) STRANDEDNESS: single  
 7179        (D) TOPOLOGY: linear  
 7180  
 7181  
 --> 7182       (A) NAME/KEY:  
 --> 7183       (B) LOCATION:  
 --> 7184       (D) OTHER INFORMATION: 11CR primer  
 7185  
 7186       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:41:  
 7187  
 7188       CAAGATTATT CCTTTCATTA GC                                  22  
 7189

---

7190       (2) INFORMATION FOR SEQ ID NO:42:  
 7191  
 7192       (i) SEQUENCE CHARACTERISTICS:  
 7193        (A) LENGTH: 22 base pairs  
 7194        (B) TYPE: nucleic acid  
 7195        (C) STRANDEDNESS: single  
 7196        (D) TOPOLOGY: linear  
 7197  
 7198  
 --> 7199       (A) NAME/KEY:  
 --> 7200       (B) LOCATION:  
 --> 7201       (D) OTHER INFORMATION: 11DF primer  
 7202  
 7203       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:42:  
 7204  
 7205       AACCAAAACA CAAATCTAAG AG                                  22  
 7206

---

7207       (2) INFORMATION FOR SEQ ID NO:43:

**RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/084,471**DATE: 06/04/98  
TIME: 15:52:28**INPUT SET: S26434.raw**

7208  
7209       (i) SEQUENCE CHARACTERISTICS:  
7210        (A) LENGTH: 23 base pairs  
7211        (B) TYPE: nucleic acid  
7212        (C) STRANDEDNESS: single  
7213        (D) TOPOLOGY: linear

7214  
7215  
--> 7216       (A) NAME/KEY:  
---> 7217       (B) LOCATION:  
---> 7218       (D) OTHER INFORMATION: 11DR primer

7219  
7220       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:43:

7221  
7222       GTCATTTTA TATGCTGCTT TAC  
7223

23

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7224       (2) INFORMATION FOR SEQ ID NO:44:

7225  
7226       (i) SEQUENCE CHARACTERISTICS:  
7227        (A) LENGTH: 21 base pairs  
7228        (B) TYPE: nucleic acid  
7229        (C) STRANDEDNESS: single  
7230        (D) TOPOLOGY: linear

7231  
7232  
--> 7233       (A) NAME/KEY:  
---> 7234       (B) LOCATION:  
---> 7235       (D) OTHER INFORMATION: 11EF primer

7236  
7237       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:44:

7238  
7239       GGTTTTATAT GGAGACACAG G  
7240

21

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7241       (2) INFORMATION FOR SEQ ID NO:45:

7242  
7243       (i) SEQUENCE CHARACTERISTICS:  
7244        (A) LENGTH: 23 base pairs  
7245        (B) TYPE: nucleic acid  
7246        (C) STRANDEDNESS: single  
7247        (D) TOPOLOGY: linear

7248  
7249  
--> 7250       (A) NAME/KEY:  
---> 7251       (B) LOCATION:  
---> 7252       (D) OTHER INFORMATION: 11ER primer

7253  
7254       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:45:

7255  
7256       GTATTACAA TTTCAACACA AGC  
7257

23

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7258       (2) INFORMATION FOR SEQ ID NO:46:

**RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/084,471**DATE: 06/04/98  
TIME: 15:52:29**INPUT SET: S26434.raw**

7259  
7260       (i) SEQUENCE CHARACTERISTICS:  
7261        (A) LENGTH: 20 base pairs  
7262        (B) TYPE: nucleic acid  
7263        (C) STRANDEDNESS: single  
7264        (D) TOPOLOGY: linear

7265  
7266  
---> 7267       (A) NAME/KEY:  
---> 7268       (B) LOCATION:  
---> 7269       (D) OTHER INFORMATION: 11FF primer

7270  
7271       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:46:

7272  
7273       ATCACAGTTT TGGAGGTAGC

20

7275       (2) INFORMATION FOR SEQ ID NO:47:

7276  
7277       (i) SEQUENCE CHARACTERISTICS:  
7278        (A) LENGTH: 21 base pairs  
7279        (B) TYPE: nucleic acid  
7280        (C) STRANDEDNESS: single  
7281        (D) TOPOLOGY: linear

7282  
7283  
---> 7284       (A) NAME/KEY:  
---> 7285       (B) LOCATION:  
---> 7286       (D) OTHER INFORMATION: 11FR primer

7287  
7288       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:47:

7289  
7290       CTGACTTCCT GATTCTTCTA A

21

7292       (2) INFORMATION FOR SEQ ID NO:48:

7293  
7294       (i) SEQUENCE CHARACTERISTICS:  
7295        (A) LENGTH: 21 base pairs  
7296        (B) TYPE: nucleic acid  
7297        (C) STRANDEDNESS: single  
7298        (D) TOPOLOGY: linear

7299  
7300  
---> 7301       (A) NAME/KEY:  
---> 7302       (B) LOCATION:  
---> 7303       (D) OTHER INFORMATION: 11GF primer

7304  
7305       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:48:

7306  
7307       CTCAGATGTT ATTTTCCAAG C

21

7309       (2) INFORMATION FOR SEQ ID NO:49:

**RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/084,471**

DATE: 06/04/98  
TIME: 15:52:31

**INPUT SET: S26434.raw**

7310  
7311                   (i) SEQUENCE CHARACTERISTICS:  
7312                    (A) LENGTH: 21 base pairs  
7313                    (B) TYPE: nucleic acid  
7314                    (C) STRANDEDNESS: single  
7315                    (D) TOPOLOGY: linear  
7316  
7317  
--> 7318                   (A) NAME/KEY:  
--> 7319                   (B) LOCATION:  
--> 7320                   (D) OTHER INFORMATION: 11GR primer  
7321  
7322                   (xi) SEQUENCE DESCRIPTION: SEQ ID NO:49:  
7323  
7324                   CTGTTAAATA ACCAGAAGCA C  
7325

21

7326 (2) INFORMATION FOR SEQ ID NO:50:  
7327  
7328 (i) SEQUENCE CHARACTERISTICS:  
7329 (A) LENGTH: 18 base pairs  
7330 (B) TYPE: nucleic acid  
7331 (C) STRANDEDNESS: single  
7332 (D) TOPOLOGY: linear  
7333  
7334  
---> 7335 (A) NAME/KEY:  
---> 7336 (B) LOCATION:  
---> 7337 (D) OTHER INFORMATION: 11HF primer  
7338  
7339 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:50:  
7340  
7341 AGGTAGACAG CAGCAAGC  
7342

18

7361 (2) INFORMATION FOR SEQ ID NO:52:  
7362  
7363 (i) SEQUENCE CHARACTERISTICS:  
7364 (A) LENGTH: 21 base pairs  
7365 (B) TYPE: nucleic acid  
7366 (C) STRANDEDNESS: single  
7367 (D) TOPOLOGY: linear  
7368  
7369  
--> 7370 (A) NAME/KEY:  
--> 7371 (B) LOCATION:  
--> 7372 (D) OTHER INFORMATION: 11IF primer  
7373  
7374 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:52:  
7375  
7376 TGCAGAGGTA CATCCAATAA G  
7377

21

7378 (2) INFORMATION FOR SEQ ID NO:53:

RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/084,471DATE: 06/04/98  
TIME: 15:52:33

INPUT SET: S26434.raw

7379  
7380       (i) SEQUENCE CHARACTERISTICS:  
7381        (A) LENGTH: 21 base pairs  
7382        (B) TYPE: nucleic acid  
7383        (C) STRANDEDNESS: single  
7384        (D) TOPOLOGY: linear  
7385  
7386

--> 7387       (A) NAME/KEY:  
--> 7388       (B) LOCATION:  
--> 7389       (D) OTHER INFORMATION: 11IR primer

7390  
7391       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:53:  
7392

7393 GATCAGTAAA TAGCAAGTCC G  
7394

21

---

7395       (2) INFORMATION FOR SEQ ID NO:54:

7396  
7397       (i) SEQUENCE CHARACTERISTICS:  
7398        (A) LENGTH: 23 base pairs  
7399        (B) TYPE: nucleic acid  
7400        (C) STRANDEDNESS: single  
7401        (D) TOPOLOGY: linear  
7402  
7403

--> 7404       (A) NAME/KEY:  
--> 7405       (B) LOCATION:  
--> 7406       (D) OTHER INFORMATION: 11JF primer

7407  
7408       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:54:  
7409

7410 TACTGAAAAT GAAGATAACA AAT  
7411

23

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7412       (2) INFORMATION FOR SEQ ID NO:55:

7413  
7414       (i) SEQUENCE CHARACTERISTICS:  
7415        (A) LENGTH: 22 base pairs  
7416        (B) TYPE: nucleic acid  
7417        (C) STRANDEDNESS: single  
7418        (D) TOPOLOGY: linear  
7419  
7420

--> 7421       (A) NAME/KEY:  
--> 7422       (B) LOCATION:  
--> 7423       (D) OTHER INFORMATION: !1JR primer

7424  
7425       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:55:  
7426

7427 ATTTTGTTCT TTCTTATGTC AG  
7428

22

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7429       (2) INFORMATION FOR SEQ ID NO:56:

**RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/084,471**DATE: 06/04/98  
TIME: 15:52:34**INPUT SET: S26434.raw**

7430  
7431       (i) SEQUENCE CHARACTERISTICS:  
7432        (A) LENGTH: 35 base pairs  
7433        (B) TYPE: nucleic acid  
7434        (C) STRANDEDNESS: single  
7435        (D) TOPOLOGY: linear

7436  
7437  
--> 7438       (A) NAME/KEY:  
--> 7439       (B) LOCATION:  
--> 7440       (D) OTHER INFORMATION: 11KF-M13 primer

7441  
7442       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:56:  
7443

7444       TGTAAAACGA CGGCCAGTCT ACTAAAACGG AGCAA  
7445

35

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7446       (2) INFORMATION FOR SEQ ID NO:57:

7447  
7448       (i) SEQUENCE CHARACTERISTICS:  
7449        (A) LENGTH: 35 base pairs  
7450        (B) TYPE: nucleic acid  
7451        (C) STRANDEDNESS: single  
7452        (D) TOPOLOGY: linear

7453  
7454  
--> 7455       (A) NAME/KEY:  
--> 7456       (B) LOCATION:  
--> 7457       (D) OTHER INFORMATION: 11KR-M13 primer

7458  
7459       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:57:  
7460

7461       CAGGAAACAG CTATGACCGT ATGAAAACCC AACAG  
7462

35

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7463       (2) INFORMATION FOR SEQ ID NO:58:

7464  
7465       (i) SEQUENCE CHARACTERISTICS:  
7466        (A) LENGTH: 22 base pairs  
7467        (B) TYPE: nucleic acid  
7468        (C) STRANDEDNESS: single  
7469        (D) TOPOLOGY: linear

7470  
7471  
--> 7472       (A) NAME/KEY:  
--> 7473       (B) LOCATION:  
--> 7474       (D) OTHER INFORMATION: 11LF primer

7475  
7476       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:58:  
7477

7478       CACAAAATAC TGAAAGAAAG TG  
7479

22

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7480       (2) INFORMATION FOR SEQ ID NO:59:

**RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/084,471**DATE: 06/04/98  
TIME: 15:52:36**INPUT SET: S26434.raw**

7481  
7482       (i) SEQUENCE CHARACTERISTICS:  
7483        (A) LENGTH: 19 base pairs  
7484        (B) TYPE: nucleic acid  
7485        (C) STRANDEDNESS: single  
7486        (D) TOPOLOGY: linear  
7487  
7488  
--> 7489       (A) NAME/KEY:  
--> 7490       (B) LOCATION:  
--> 7491       (D) OTHER INFORMATION: 11LR primer  
7492  
7493       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:59:  
7494  
7495       GGCACCAACAG TCTCAATAG                                  19  
7496

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7497       (2) INFORMATION FOR SEQ ID NO:60:  
7498  
7499       (i) SEQUENCE CHARACTERISTICS:  
7500        (A) LENGTH: 20 base pairs  
7501        (B) TYPE: nucleic acid  
7502        (C) STRANDEDNESS: single  
7503        (D) TOPOLOGY: linear  
7504  
7505  
--> 7506       (A) NAME/KEY:  
--> 7507       (B) LOCATION:  
--> 7508       (D) OTHER INFORMATION: 11MF primer  
7509  
7510       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:60:  
7511  
7512       GCAAAGACCC TAAAGTACAG                                  20  
7513

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7514       (2) INFORMATION FOR SEQ ID NO:61:  
7515  
7516       (i) SEQUENCE CHARACTERISTICS:  
7517        (A) LENGTH: 22 base pairs  
7518        (B) TYPE: nucleic acid  
7519        (C) STRANDEDNESS: single  
7520        (D) TOPOLOGY: linear  
7521  
7522  
--> 7523       (A) NAME/KEY:  
--> 7524       (B) LOCATION:  
--> 7525       (D) OTHER INFORMATION: 11MR primer  
7526  
7527       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:61:  
7528  
7529       CATCAAATAT TCCTTCTCTA AG                                  22  
7530

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7531       (2) INFORMATION FOR SEQ ID NO:62:

**RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/084,471**

DATE: 06/04/98  
TIME: 15:52:38

***INPUT SET: S26434.raw***

7532  
7533 (i) SEQUENCE CHARACTERISTICS:  
7534 (A) LENGTH: 35 base pairs  
7535 (B) TYPE: nucleic acid  
7536 (C) STRANDEDNESS: single  
7537 (D) TOPOLOGY: linear

--> 7540 (A) NAME/KEY:  
--> 7541 (B) LOCATION:  
--> 7542 (D) OTHER INFORMATION: 11NF-M13 primer

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:62:

7546 TGTAAAACGA CGGCCAGTGA AAATTCAGCC TTAGC  
7547

35

7548 (2) INFORMATION FOR SEQ ID NO:63:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 35 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

--> 7557 (A) NAME/KEY:  
--> 7558 (B) LOCATION:  
--> 7559 (D) OTHER INFORMATION: 11NR-M13 primer

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:63:

7562 CAGGAAACAG CTATGACCAT CAGAATGGTA GGAAT  
7563  
7564

35

7565 (2) INFORMATION FOR SEQ ID NO:64:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 22 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

--> 7574 (A) NAME/KEY:  
--> 7575 (B) LOCATION:  
--> 7576 (D) OTHER INFORMATION: 110F primer

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:

7579  
7580 GTACTATAGC TGAAAATGAC AA  
7581

22

7582 (2) INFORMATION FOR SEQ ID NO:65:

**RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/084,471**

DATE: 06/04/98  
TIME: 15:52:39

**INPUT SET: S26434.raw**

20

7599 (2) INFORMATION FOR SEQ ID NO:66:  
7600  
7601 (i) SEQUENCE CHARACTERISTICS:  
7602 (A) LENGTH: 20 base pairs  
7603 (B) TYPE: nucleic acid  
7604 (C) STRANDEDNESS: single  
7605 (D) TOPOLOGY: linear  
7606  
7607  
--> 7608 (A) NAME/KEY:  
--> 7609 (B) LOCATION:  
--> 7610 (D) OTHER INFORMATION: 11PF primer  
7611  
7612 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:66:  
7613  
7614 TGAAGATATT TGCGTTGAGG  
7615

20

7616 (2) INFORMATION FOR SEQ ID NO:67:  
7617  
7618 (i) SEQUENCE CHARACTERISTICS:  
7619 (A) LENGTH: 20 base pairs  
7620 (B) TYPE: nucleic acid  
7621 (C) STRANDEDNESS: single  
7622 (D) TOPOLOGY: linear  
7623  
7624  
--> 7625 (A) NAME/KEY:  
--> 7626 (B) LOCATION:  
--> 7627 (C) OTHER INFORMATION: 11PR primer  
7628  
7629 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:67:  
7630  
7631 GTCAGCAAAA ACCTTATGTG  
7632

20

7633 (2) INFORMATION FOR SEQ ID NO:68:

**RAW SEQUENCE LISTING**  
**PATENT APPLICATION US/09/084,471**

DATE: 06/04/98  
 TIME: 15:52:41

**INPUT SET: S26434.raw**

7634  
 7635       (i) SEQUENCE CHARACTERISTICS:  
 7636        (A) LENGTH: 21 base pairs  
 7637        (B) TYPE: nucleic acid  
 7638        (C) STRANDEDNESS: single  
 7639        (D) TOPOLOGY: linear  
 7640  
 7641  
 --> 7642       (A) NAME/KEY:  
 --> 7643       (B) LOCATION:  
 --> 7644       (D) OTHER INFORMATION: 11QF primer  
 7645  
 7646       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:68:  
 7647  
 7648       ACGAAAATTA TGGCAGGTTG T                                  21  
 7649

7650       (2) INFORMATION FOR SEQ ID NO:69:  
 7651  
 7652       (i) SEQUENCE CHARACTERISTICS:  
 7653        (A) LENGTH: 21 base pairs  
 7654        (B) TYPE: nucleic acid  
 7655        (C) STRANDEDNESS: single  
 7656        (D) TOPOLOGY: linear  
 7657  
 7658  
 --> 7659       (A) NAME/KEY:  
 --> 7660       (B) LOCATION:  
 --> 7661       (D) OTHER INFORMATION: 11QR primer  
 7662  
 7663       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:69:  
 7664  
 7665       CTTGTCTTGC GTTTTGTAAT G                                  21  
 7666

7667       (2) INFORMATION FOR SEQ ID NO:70:  
 7668  
 7669       (i) SEQUENCE CHARACTERISTICS:  
 7670        (A) LENGTH: 20 base pairs  
 7671        (B) TYPE: nucleic acid  
 7672        (C) STRANDEDNESS: single  
 7673        (D) TOPOLOGY: linear  
 7674  
 7675  
 --> 7676       (A) NAME/KEY:  
 --> 7677       (B) LOCATION:  
 --> 7678       (D) OTHER INFORMATION: 11RF primer  
 7679  
 7680       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:70:  
 7681  
 7682       GCTTCATAAG TCAGTCTCAT                                  20  
 7683

7684       (2) INFORMATION FOR SEQ ID NO:71:

**RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/084,471**DATE: 06/04/98  
TIME: 15:52:42**INPUT SET: S26434.raw**

7685  
7686       (i) SEQUENCE CHARACTERISTICS:  
7687           (A) LENGTH: 20 base pairs  
7688           (B) TYPE: nucleic acid  
7689           (C) STRANDEDNESS: single  
7690           (D) TOPOLOGY: linear  
7691  
7692

--> 7693       (A) NAME/KEY:  
--> 7694       (B) LOCATION:  
--> 7695       (D) OTHER INFORMATION: 11RR primer

7696  
7697       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:71:  
7698

7699       TCAAATTCCCT CTAACACTCC  
7700

20

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7701       (2) INFORMATION FOR SEQ ID NO:72:  
7702

7703       (i) SEQUENCE CHARACTERISTICS:  
7704           (A) LENGTH: 35 base pairs  
7705           (B) TYPE: nucleic acid  
7706           (C) STRANDEDNESS: single  
7707           (D) TOPOLOGY: linear  
7708

--> 7710       (A) NAME/KEY:  
--> 7711       (B) LOCATION:  
--> 7712       (D) OTHER INFORMATION: 11SF-M13 primer

7713  
7714       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:72:  
7715

7716       TGTAAAACGA CGGCCAGTTA CAGCAAGTGG AAAGC  
7717

35

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7718       (2) INFORMATION FOR SEQ ID NO:73:  
7719

7720       (i) SEQUENCE CHARACTERISTICS:  
7721           (A) LENGTH: 37 base pairs  
7722           (B) TYPE: nucleic acid  
7723           (C) STRANDEDNESS: single  
7724           (D) TOPOLOGY: linear  
7725

--> 7727       (A) NAME/KEY:  
--> 7728       (B) LOCATION:  
--> 7729       (D) OTHER INFORMATION: 11SR-M13 primer

7730  
7731       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:73:  
7732

7733       CAGGAAACAG CTATGACCAA GTTTCAGTTT TACCAAT  
7734

37

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7735       (2) INFORMATION FOR SEQ ID NO:74:

**RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/084,471**

DATE: 06/04/98  
TIME: 15:52:44

**INPUT SET: S26434.raw**

7736  
 7737       (i) SEQUENCE CHARACTERISTICS:  
 7738        (A) LENGTH: 22 base pairs  
 7739        (B) TYPE: nucleic acid  
 7740        (C) STRANDEDNESS: single  
 7741        (D) TOPOLOGY: linear  
 7742  
 7743  
 --> 7744       (A) NAME/KEY:  
 --> 7745       (B) LOCATION:  
 --> 7746       (D) OTHER INFORMATION: 11TF primer  
 7747  
 7748       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:74:  
 7749  
 7750       GTTCTTCAGA AAATAATCAC TC                          22  
 7751

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7752       (2) INFORMATION FOR SEQ ID NO:75:  
 7753  
 7754       (i) SEQUENCE CHARACTERISTICS:  
 7755        (A) LENGTH: 21 base pairs  
 7756        (B) TYPE: nucleic acid  
 7757        (C) STRANDEDNESS: single  
 7758        (D) TOPOLOGY: linear  
 7759  
 7760  
 --> 7761       (A) NAME/KEY:  
 --> 7762       (B) LOCATION:  
 --> 7763       (D) OTHER INFORMATION: 11TR primer  
 7764  
 7765       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:75:  
 7766  
 7767       TGTAAAAAGA GAATGTGTGG C                          21  
 7768

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7769       (2) INFORMATION FOR SEQ ID NO:76:  
 7770  
 7771       (i) SEQUENCE CHARACTERISTICS:  
 7772        (A) LENGTH: 39 base pairs  
 7773        (B) TYPE: nucleic acid  
 7774        (C) STRANDEDNESS: single  
 7775        (D) TOPOLOGY: linear  
 7776  
 7777  
 --> 7778       (A) NAME/KEY:  
 --> 7779       (B) LOCATION:  
 --> 7780       (D) OTHER INFORMATION: 11UF-M13 primer  
 7781  
 7782       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:76:  
 7783  
 7784       TGTAAAACGA CGGCCAGTAC TTTTTCTGAT GTTCCTGTG                  39  
 7785

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7786       (2) INFORMATION FOR SEQ ID NO:77:

**RAW SEQUENCE LISTING**  
**PATENT APPLICATION US/09/084,471**

DATE: 06/04/98  
 TIME: 15:52:46

**INPUT SET: S26434.raw**

7787  
 7788       (i) SEQUENCE CHARACTERISTICS:  
 7789           (A) LENGTH: 39 base pairs  
 7790           (B) TYPE: nucleic acid  
 7791           (C) STRANDEDNESS: single  
 7792           (D) TOPOLOGY: linear  
 7793  
 7794  
 --> 7795       (A) NAME/KEY:  
 --> 7796       (B) LOCATION:  
 --> 7797       (D) OTHER INFORMATION: 11UR-M13 primer  
 7798  
 7799       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:77:  
 7800  
 7801       CAGGAAACAG CTATGACCTA AAAATAGTGA TTGGCAACA       39  
 7802

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7803       (2) INFORMATION FOR SEQ ID NO:78:  
 7804  
 7805       (i) SEQUENCE CHARACTERISTICS:  
 7806           (A) LENGTH: 42 base pairs  
 7807           (B) TYPE: nucleic acid  
 7808           (C) STRANDEDNESS: single  
 7809           (D) TOPOLOGY: linear  
 7810  
 7811  
 --> 7812       (A) NAME/KEY:  
 --> 7813       (B) LOCATION:  
 --> 7814       (D) OTHER INFORMATION: 12F/M13F primer  
 7815  
 7816       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:78:  
 7817  
 7818       TGTAAAACGA CGGCCAGTAG TGGTGTTTA AAGTGGTCAA AA       42  
 7819

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7820       (2) INFORMATION FOR SEQ ID NO:79:  
 7821  
 7822       (i) SEQUENCE CHARACTERISTICS:  
 7823           (A) LENGTH: 40 base pairs  
 7824           (B) TYPE: nucleic acid  
 7825           (C) STRANDEDNESS: single  
 7826           (D) TOPOLOGY: linear  
 7827  
 7828  
 --> 7829       (A) NAME/KEY:  
 --> 7830       (B) LOCATION:  
 --> 7831       (D) OTHER INFORMATION: 12R/M13R primer  
 7832  
 7833       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:79:  
 7834  
 7835       CAGGAAACAG CTATGACCGG ATCCACCTGA GGTCAGAATA       40  
 7836

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7837       (2) INFORMATION FOR SEQ ID NO:80:

**RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/084,471**

DATE: 06/04/98  
TIME: 15:52:47

**INPUT SET: S26434.raw**

7838  
 7839       (i) SEQUENCE CHARACTERISTICS:  
 7840           (A) LENGTH: 21 base pairs  
 7841           (B) TYPE: nucleic acid  
 7842           (C) STRANDEDNESS: single  
 7843           (D) TOPOLOGY: linear

7844  
 7845  
 --> 7846       (A) NAME/KEY:  
 --> 7847       (B) LOCATION:  
 --> 7848       (D) OTHER INFORMATION: 13-2F primer

7849  
 7850       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:80:

7851  
 7852       TAACATTAA GCATCCGTTA C  
 7853

21

7854       (2) INFORMATION FOR SEQ ID NO:81:

7855  
 7856       (i) SEQUENCE CHARACTERISTICS:  
 7857           (A) LENGTH: 28 base pairs  
 7858           (B) TYPE: nucleic acid  
 7859           (C) STRANDEDNESS: single  
 7860           (D) TOPOLOGY: linear

7861  
 7862  
 --> 7863       (A) NAME/KEY:  
 --> 7864       (B) LOCATION:  
 --> 7865       (D) OTHER INFORMATION: 13-2R primer

7866  
 7867       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:81:

7868  
 7869       AACCGAGACT TTTCTCATAAC TGTATTAG  
 7870

28

7871       (2) INFORMATION FOR SEQ ID NO:82:

7872  
 7873       (i) SEQUENCE CHARACTERISTICS:  
 7874           (A) LENGTH: 22 base pairs  
 7875           (B) TYPE: nucleic acid  
 7876           (C) STRANDEDNESS: single  
 7877           (D) TOPOLOGY: linear

7878  
 7879  
 --> 7880       (A) NAME/KEY:  
 --> 7881       (B) LOCATION:  
 --> 7882       (D) OTHER INFORMATION: 14F primer

7883  
 7884       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:82:

7885  
 7886       ACCATGTCAGC AAATGAGGGT CT  
 7887

22

7888       (2) INFORMATION FOR SEQ ID NO:83:

## INPUT SET: S26434.raw

7889  
7890       (i) SEQUENCE CHARACTERISTICS:  
7891           (A) LENGTH: 22 base pairs  
7892           (B) TYPE: nucleic acid  
7893           (C) STRANDEDNESS: single  
7894           (D) TOPOLOGY: linear  
7895  
7896  
--> 7897       (A) NAME/KEY:  
--> 7898       (B) LOCATION:  
--> 7899       (D) OTHER INFORMATION: 14AR primer  
7900  
7901       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:83:  
7902  
7903       GCTTTTGTCT GTTTTCCTCC AA  
7904

22

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7905       (2) INFORMATION FOR SEQ ID NO:84:  
7906  
7907       (i) SEQUENCE CHARACTERISTICS:  
7908           (A) LENGTH: 21 base pairs  
7909           (B) TYPE: nucleic acid  
7910           (C) STRANDEDNESS: single  
7911           (D) TOPOLOGY: linear  
7912  
7913  
--> 7914       (A) NAME/KEY:  
--> 7915       (B) LOCATION:  
--> 7916       (D) OTHER INFORMATION: 15-2F primer  
7917  
7918       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:84:  
7919  
7920       CCAGGGGTTG TGCTTTTAA A  
7921

21

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7922       (2) INFORMATION FOR SEQ ID NO:85:  
7923  
7924       (i) SEQUENCE CHARACTERISTICS:  
7925           (A) LENGTH: 38 base pairs  
7926           (B) TYPE: nucleic acid  
7927           (C) STRANDEDNESS: single  
7928           (D) TOPOLOGY: linear  
7929  
7930  
--> 7931       (A) NAME/KEY:  
--> 7932       (B) LOCATION:  
--> 7933       (D) OTHER INFORMATION: 15FUT/M13-R primer  
7934  
7935       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:85:  
7936  
7937       CAGGAAACAG CTATGACCAAC TCTGTCATAA AAGCCATC  
7938

38

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7939       (2) INFORMATION FOR SEQ ID NO:86:

**RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/084,471**

DATE: 06/04/98  
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**INPUT SET: S26434.raw**

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7956 (2) INFORMATION FOR SEQ ID NO:87:  
7957  
7958 (i) SEQUENCE CHARACTERISTICS:  
7959 (A) LENGTH: 20 base pairs  
7960 (B) TYPE: nucleic acid  
7961 (C) STRANDEDNESS: single  
7962 (D) TOPOLOGY: linear  
7963  
7964  
--> 7965 (A) NAME/KEY:  
--> 7966 (B) LOCATION:  
--> 7967 (D) OTHER INFORMATION: 16AR primer  
7968  
7969 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:87:  
7970  
7971 CCAACTTTTT AGTCGAGAG  
7972

20

7973 (2) INFORMATION FOR SEQ ID NO:88:  
7974  
7975 (i) SEQUENCE CHARACTERISTICS:  
7976 (A) LENGTH: 19 base pairs  
7977 (B) TYPE: nucleic acid  
7978 (C) STRANDEDNESS: single  
7979 (D) TOPOLOGY: linear  
7980  
7981  
---> 7982 (A) NAME/KEY:  
---> 7983 (B) LOCATION:  
---> 7984 (D) OTHER INFORMATION: 17F primer  
7985  
7986 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:88:  
7987  
7988 TTCAGTATCA TCCTATGTG  
7989

19

7990 (2) INFORMATION FOR SEQ ID NO:89:

**RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/084,471**

DATE: 06/04/98  
TIME: 15:52:52

**INPUT SET: S26434.raw**

7991  
 7992       (i) SEQUENCE CHARACTERISTICS:  
 7993        (A) LENGTH: 20 base pairs  
 7994        (B) TYPE: nucleic acid  
 7995        (C) STRANDEDNESS: single  
 7996        (D) TOPOLOGY: linear  
 7997  
 7998  
 --> 7999       (A) NAME/KEY:  
 --> 8000       (B) LOCATION:  
 --> 8001       (D) OTHER INFORMATION: 17AR primer  
 8002  
 8003       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:89:  
 8004  
 8005 AGAAACCTTA ACCCATACTG  
 8006

20

8007       (2) INFORMATION FOR SEQ ID NO:90:  
 8008  
 8009       (i) SEQUENCE CHARACTERISTICS:  
 8010        (A) LENGTH: 39 base pairs  
 8011        (B) TYPE: nucleic acid  
 8012        (C) STRANDEDNESS: single  
 8013        (D) TOPOLOGY: linear  
 8014  
 8015  
 --> 8016       (A) NAME/KEY:  
 --> 8017       (B) LOCATION:  
 --> 8018       (D) OTHER INFORMATION: 18FUT/M13-AF primer  
 8019  
 8020       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:90:  
 8021  
 8022 TGTAAAACGA CGGCCAGTGA ATTCTAGAGT CACACTTCC  
 8023

39

8024       (2) INFORMATION FOR SEQ ID NO:91:  
 8025  
 8026       (i) SEQUENCE CHARACTERISTICS:  
 8027        (A) LENGTH: 38 base pairs  
 8028        (B) TYPE: nucleic acid  
 8029        (C) STRANDEDNESS: single  
 8030        (D) TOPOLOGY: linear  
 8031  
 8032  
 --> 8033       (A) NAME/KEY:  
 --> 8034       (B) LOCATION:  
 --> 8035       (D) OTHER INFORMATION: 18R/M13R primer  
 8036  
 8037       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:91:  
 8038  
 8039 CAGGAAACAG CTATGACCTT TAACTGAATC AATGACTG  
 8040

38

8041       (2) INFORMATION FOR SEQ ID NO:92:

**RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/084,471**

DATE: 06/04/98  
TIME: 15:52:54

**INPUT SET: S26434.raw**

8042  
 8043       (i) SEQUENCE CHARACTERISTICS:  
 8044        (A) LENGTH: 41 base pairs  
 8045        (B) TYPE: nucleic acid  
 8046        (C) STRANDEDNESS: single  
 8047        (D) TOPOLOGY: linear  
 8048  
 8049  
 --> 8050       (A) NAME/KEY:  
 --> 8051       (B) LOCATION:  
 --> 8052       (D) OTHER INFORMATION: 19F/M13F primer  
 8053  
 8054       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:92:  
 8055  
 8056       TGTAAAACGA CGGCCAGTAA GTGAATATT TTAAGGCAGT T                  41  
 8057

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8058       (2) INFORMATION FOR SEQ ID NO:93:  
 8059  
 8060       (i) SEQUENCE CHARACTERISTICS:  
 8061        (A) LENGTH: 39 base pairs  
 8062        (B) TYPE: nucleic acid  
 8063        (C) STRANDEDNESS: single  
 8064        (D) TOPOLOGY: linear  
 8065  
 8066  
 --> 8067       (A) NAME/KEY:  
 --> 8068       (B) LOCATION:  
 --> 8069       (D) OTHER INFORMATION: 19FUT/M13-R primer  
 8070  
 8071       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:93:  
 8072  
 8073       CAGGAAACAG CTATGACCAA GAGACCGAAA CTCCATCTC                  39  
 8074

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8075       (2) INFORMATION FOR SEQ ID NO:94:  
 8076  
 8077       (i) SEQUENCE CHARACTERISTICS:  
 8078        (A) LENGTH: 38 base pairs  
 8079        (B) TYPE: nucleic acid  
 8080        (C) STRANDEDNESS: single  
 8081        (D) TOPOLOGY: linear  
 8082  
 8083  
 --> 8084       (A) NAME/KEY:  
 --> 8085       (B) LOCATION:  
 --> 8086       (D) OTHER INFORMATION: 20F/M13F primer  
 8087  
 8088       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:94:  
 8089  
 8090       TGTAAAACGA CGGCCAGTCA CTGTGCCTGG CCTGATAC                  38  
 8091

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8092       (2) INFORMATION FOR SEQ ID NO:95:

**RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/084,471**

DATE: 06/04/98  
TIME: 15:52:56

**INPUT SET: S26434.raw**

8093  
 8094       (i) SEQUENCE CHARACTERISTICS:  
 8095        (A) LENGTH: 39 base pairs  
 8096        (B) TYPE: nucleic acid  
 8097        (C) STRANDEDNESS: single  
 8098        (D) TOPOLOGY: linear  
 8099  
 8100  
 --> 8101       (A) NAME/KEY:  
 --> 8102       (B) LOCATION:  
 --> 8103       (D) OTHER INFORMATION: 20R/M13R primer  
 8104  
 8105       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:95:  
 8106  
 8107       CAGGAAACAG CTATGACCAT GTTAAATTCA AAGTCTCTA                   39  
 8108

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8109       (2) INFORMATION FOR SEQ ID NO:96:  
 8110  
 8111       (i) SEQUENCE CHARACTERISTICS:  
 8112        (A) LENGTH: 39 base pairs  
 8113        (B) TYPE: nucleic acid  
 8114        (C) STRANDEDNESS: single  
 8115        (D) TOPOLOGY: linear  
 8116  
 8117  
 --> 8118       (A) NAME/KEY:  
 --> 8119       (B) LOCATION:  
 --> 8120       (D) OTHER INFORMATION: 21F/M13F primer  
 8121  
 8122       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:96:  
 8123  
 8124       TGTAACACGA CGGCCAGTGG GTGTTTATG CTTGGTTCT                   39  
 8125

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8126       (2) INFORMATION FOR SEQ ID NO:97:  
 8127  
 8128       (i) SEQUENCE CHARACTERISTICS:  
 8129        (A) LENGTH: 40 base pairs  
 8130        (B) TYPE: nucleic acid  
 8131        (C) STRANDEDNESS: single  
 8132        (D) TOPOLOGY: linear  
 8133  
 8134  
 --> 8135       (A) NAME/KEY:  
 --> 8136       (B) LOCATION:  
 --> 8137       (D) OTHER INFORMATION: 21R/M13R primer  
 8138  
 8139       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:97:  
 8140  
 8141       CAGGAAACAG CTATGACCCA TTTAACATA TTCCCTCCTG                   40  
 8142

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8143       (2) INFORMATION FOR SEQ ID NO:98:

**RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/084,471**DATE: 06/04/98  
TIME: 15:52:57**INPUT SET: S26434.raw**

8144  
8145       (i) SEQUENCE CHARACTERISTICS:  
8146        (A) LENGTH: 19 base pairs  
8147        (B) TYPE: nucleic acid  
8148        (C) STRANDEDNESS: single  
8149        (D) TOPOLOGY: linear  
8150

--> 8152  
--> 8153  
--> 8154       (A) NAME/KEY:  
              (B) LOCATION:  
              (D) OTHER INFORMATION: 22F-1A primer

8155  
8156       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:98:  
8157

8158       AACCACACCC TTAAGATGA

19

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8160       (2) INFORMATION FOR SEQ ID NO:99:  
8161

8162       (i) SEQUENCE CHARACTERISTICS:  
8163        (A) LENGTH: 20 base pairs  
8164        (B) TYPE: nucleic acid  
8165        (C) STRANDEDNESS: single  
8166        (D) TOPOLOGY: linear  
8167

--> 8169  
--> 8170  
--> 8171       (A) NAME/KEY:  
              (B) LOCATION:  
              (D) OTHER INFORMATION: 22R-1A primer

8172  
8173       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:99:  
8174

8175       GCATTAGTAG TGGATTTCGC

20

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8177       (2) INFORMATION FOR SEQ ID NO:100:  
8178

8179       (i) SEQUENCE CHARACTERISTICS:  
8180        (A) LENGTH: 16 base pairs  
8181        (B) TYPE: nucleic acid  
8182        (C) STRANDEDNESS: single  
8183        (D) TOPOLOGY: linear  
8184

--> 8186  
--> 8187  
--> 8188       (A) NAME/KEY:  
              (B) LOCATION:  
              (D) OTHER INFORMATION: 23FII primer

8189  
8190       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:100:  
8191

8192       TCACTTCCAT TGCATC

16

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8194       (2) INFORMATION FOR SEQ ID NO:101:

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**RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/084,471**

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TIME: 15:52:59

**INPUT SET: S26434.raw**

8195  
8196       (i) SEQUENCE CHARACTERISTICS:  
8197        (A) LENGTH: 17 base pairs  
8198        (B) TYPE: nucleic acid  
8199        (C) STRANDEDNESS: single  
8200        (D) TOPOLOGY: linear  
8201  
8202  
--> 8203       (A) NAME/KEY:  
--> 8204       (B) LOCATION:  
--> 8205       (D) OTHER INFORMATION: 23RII primer  
8206  
8207       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:101:  
8208  
8209       TGCCAACTGG TAGCTCC  
8210

17

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8211       (2) INFORMATION FOR SEQ ID NO:102:  
8212  
8213       (i) SEQUENCE CHARACTERISTICS:  
8214        (A) LENGTH: 20 base pairs  
8215        (B) TYPE: nucleic acid  
8216        (C) STRANDEDNESS: single  
8217        (D) TOPOLOGY: linear  
8218  
8219  
--> 8220       (A) NAME/KEY:  
--> 8221       (B) LOCATION:  
--> 8222       (D) OTHER INFORMATION: 24 2F primer  
8223  
8224       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:102:  
8225  
8226       TACAGTTAGC AGCGACAAAAA  
8227

20

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8228       (2) INFORMATION FOR SEQ ID NO:103:  
8229  
8230       (i) SEQUENCE CHARACTERISTICS:  
8231        (A) LENGTH: 38 base pairs  
8232        (B) TYPE: nucleic acid  
8233        (C) STRANDEDNESS: single  
8234        (D) TOPOLOGY: linear  
8235  
8236  
--> 8237       (A) NAME/KEY:  
--> 8238       (B) LOCATION:  
--> 8239       (D) OTHER INFORMATION: 24R/M13R primer  
8240  
8241       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:103:  
8242  
8243       CAGGAAACAG CTATGACCAT TTGCCAACTG GTAGCTCC  
8244

38

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8245       (2) INFORMATION FOR SEQ ID NO:104:

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RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/084,471

DATE: 06/04/98  
TIME: 15:53:01

INPUT SET: S26434.raw

8246  
8247       (i) SEQUENCE CHARACTERISTICS:  
8248           (A) LENGTH: 20 base pairs  
8249           (B) TYPE: nucleic acid  
8250           (C) STRANDEDNESS: single  
8251           (D) TOPOLOGY: linear

--> 8252  
---> 8253  
---> 8254       (A) NAME/KEY:  
---> 8255       (B) LOCATION:  
---> 8256       (D) OTHER INFORMATION: 25F-7/23 primer

8257  
8258       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:104:  
8259

8260       GCTTTGCCA AATTCAGCTA

20

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8262       (2) INFORMATION FOR SEQ ID NO:105:

8263  
8264       (i) SEQUENCE CHARACTERISTICS:  
8265           (A) LENGTH: 20 base pairs  
8266           (B) TYPE: nucleic acid  
8267           (C) STRANDEDNESS: single  
8268           (D) TOPOLOGY: linear

8269  
8270  
---> 8271       (A) NAME/KEY:  
---> 8272       (B) LOCATION:  
---> 8273       (D) OTHER INFORMATION: 25R-7/23 primer

8274  
8275       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:105:  
8276

8277       TACCAAAATG TGTGGTGATG

20

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8279       (2) INFORMATION FOR SEQ ID NO:106:

8280  
8281       (i) SEQUENCE CHARACTERISTICS:  
8282           (A) LENGTH: 20 base pairs  
8283           (B) TYPE: nucleic acid  
8284           (C) STRANDEDNESS: single  
8285           (D) TOPOLOGY: linear

8286  
8287  
---> 8288       (A) NAME/KEY:  
---> 8289       (B) LOCATION:  
---> 8290       (D) OTHER INFORMATION: 26-2F primer

8291  
8292       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:106:  
8293

8294       AATCACTGAT ACTGGTTTG

20

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8296       (2) INFORMATION FOR SEQ ID NO:107:

RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/084,471DATE: 06/04/98  
TIME: 15:53:02

INPUT SET: S26434.raw

8297  
8298       (i) SEQUENCE CHARACTERISTICS:  
8299        (A) LENGTH: 20 base pairs  
8300        (B) TYPE: nucleic acid  
8301        (C) STRANDEDNESS: single  
8302        (D) TOPOLOGY: linear  
8303  
8304  
--> 8305  
--> 8306  
--> 8307       (A) NAME/KEY:  
              (B) LOCATION:  
              (D) OTHER INFORMATION: 26-2R primer  
8308  
8309       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:107:  
8310  
8311 TATACTTACA GGAGCCACAT                                  20  
8312

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8313       (2) INFORMATION FOR SEQ ID NO:108:  
8314  
8315       (i) SEQUENCE CHARACTERISTICS:  
8316        (A) LENGTH: 18 base pairs  
8317        (B) TYPE: nucleic acid  
8318        (C) STRANDEDNESS: single  
8319        (D) TOPOLOGY: linear  
8320  
8321  
--> 8322       (A) NAME/KEY:  
--> 8323       (B) LOCATION:  
--> 8324       (D) OTHER INFORMATION: 27AF-1A primer  
8325  
8326       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:108:  
8327  
8328 CTGTGTGTAA TATTTGCCG                                  18  
8329

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8330       (2) INFORMATION FOR SEQ ID NO:109:  
8331  
8332       (i) SEQUENCE CHARACTERISTICS:  
8333        (A) LENGTH: 40 base pairs  
8334        (B) TYPE: nucleic acid  
8335        (C) STRANDEDNESS: single  
8336        (D) TOPOLOGY: linear  
8337  
8338  
--> 8339       (A) NAME/KEY:  
--> 8340       (B) LOCATION:  
--> 8341       (D) OTHER INFORMATION: 27AR/M13R primer  
8342  
8343       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:109:  
8344  
8345 CAGGAAACAG CTATGACGGC AAGTTCTTCG TCAGCTATTG                          40  
8346

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8347       (2) INFORMATION FOR SEQ ID NO:110:

**RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/084,471**DATE: 06/04/98  
TIME: 15:53:04**INPUT SET: S26434.raw**

8348  
8349       (i) SEQUENCE CHARACTERISTICS:  
8350           (A) LENGTH: 40 base pairs  
8351           (B) TYPE: nucleic acid  
8352           (C) STRANDEDNESS: single  
8353           (D) TOPOLOGY: linear

8354  
8355  
--> 8356       (A) NAME/KEY:  
---> 8357       (B) LOCATION:  
---> 8358       (D) OTHER INFORMATION: 27BF/M13F primer  
8359  
8360       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:110:  
8361  
8362       TGTAAAACGA CGGCCAGTGA ATTCTCCTCA GATGACTCCA       40  
8363

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8364       (2) INFORMATION FOR SEQ ID NO:111:  
8365  
8366       (i) SEQUENCE CHARACTERISTICS:  
8367           (A) LENGTH: 38 base pairs  
8368           (B) TYPE: nucleic acid  
8369           (C) STRANDEDNESS: single  
8370           (D) TOPOLOGY: linear

8371  
8372  
--> 8373       (A) NAME/KEY:  
---> 8374       (B) LOCATION:  
---> 8375       (D) OTHER INFORMATION: 27BR/M13R primer  
8376  
8377       (xi) SEQUENCE DESCRIPTION: SEQ ID NO:111:  
8378  
8379       CAGGAAACAG CTATGACCTC TTTGCTCATT GTGCAACA       38  
8380

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**SEQUENCE VERIFICATION REPORT**  
**PATENT APPLICATION US/09/084,471**

DATE: 06/04/98  
 TIME: 15:53:15

**INPUT SET: S26434.raw**

Line	Error	Original Text
17	Number of Sequences (111) Doesn't Equal Actual Count (110)	(iii) NUMBER OF SEQUENCES: 111
6742	Unknown or Misplaced Identifier	(A) NAME/KEY:
6743	Unknown or Misplaced Identifier	(B) LOCATION:
6744	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 2F primer
6750	Sequence 15 missing	(2) INFORMATION FOR SEQ ID NO:16:
6772	Unknown or Misplaced Identifier	(A) NAME/KEY:
6773	Unknown or Misplaced Identifier	(B) LOCATION:
6774	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 3FII primer
6789	Unknown or Misplaced Identifier	(A) NAME/KEY:
6790	Unknown or Misplaced Identifier	(B) LOCATION:
6791	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 3RII primer
6806	Unknown or Misplaced Identifier	(A) NAME/KEY:
6807	Unknown or Misplaced Identifier	(B) LOCATION:
6808	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 4F/M 13F primer
6823	Unknown or Misplaced Identifier	(A) NAME/KEY:
6824	Unknown or Misplaced Identifier	(B) LOCATION:
6825	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 4R-1A primer
6840	Unknown or Misplaced Identifier	(A) NAME/KEY:
6841	Unknown or Misplaced Identifier	(B) LOCATION:
6842	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 5 +6F/M13F primer
6857	Unknown or Misplaced Identifier	(A) NAME/KEY:
6858	Unknown or Misplaced Identifier	(B) LOCATION:
6859	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 5 +6R/M13R primer
6874	Unknown or Misplaced Identifier	(A) NAME/KEY:
6875	Unknown or Misplaced Identifier	(B) LOCATION:
6876	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 7F/M13F primer
6891	Unknown or Misplaced Identifier	(A) NAME/KEY:
6892	Unknown or Misplaced Identifier	(B) LOCATION:
6893	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 7R/M13R primer
6908	Unknown or Misplaced Identifier	(A) NAME/KEY:
6909	Unknown or Misplaced Identifier	(B) LOCATION:
6910	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 8F/M13F primer
6943	Unknown or Misplaced Identifier	(A) NAME/KEY:
6944	Unknown or Misplaced Identifier	(B) LOCATION:
6945	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 8RIA primer
6960	Unknown or Misplaced Identifier	(A) NAME/KEY:
6961	Unknown or Misplaced Identifier	(B) LOCATION:
6962	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 9F/M13F primer
6977	Unknown or Misplaced Identifier	(A) NAME/KEY:
6978	Unknown or Misplaced Identifier	(B) LOCATION:
6979	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 9R/M13R primer
6994	Unknown or Misplaced Identifier	(A) NAME/KEY:
6995	Unknown or Misplaced Identifier	(B) LOCATION:
6996	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 10AF primer
7011	Unknown or Misplaced Identifier	(A) NAME/KEY:
7012	Unknown or Misplaced Identifier	(B) LOCATION:
7013	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 10AR/M13R primer
7028	Unknown or Misplaced Identifier	(A) NAME/KEY:

**SEQUENCE VERIFICATION REPORT  
PATENT APPLICATION US/09/084,471**DATE: 06/04/98  
TIME: 15:53:17**INPUT SET: S26434.raw**

Line	Error	Original Text
7029	Unknown or Misplaced Identifier	(B) LOCATION:
7030	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 10BF/M13F primer
7045	Unknown or Misplaced Identifier	(A) NAME/KEY:
7046	Unknown or Misplaced Identifier	(B) LOCATION:
7047	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 10BR/M13R primer
7080	Unknown or Misplaced Identifier	(A) NAME/KEY:
7081	Unknown or Misplaced Identifier	(B) LOCATION:
7082	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 10CRII primer
7097	Unknown or Misplaced Identifier	(A) NAME/KEY:
7098	Unknown or Misplaced Identifier	(B) LOCATION:
7099	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 11AF-M13 primer
7114	Unknown or Misplaced Identifier	(A) NAME/KEY:
7115	Unknown or Misplaced Identifier	(B) LOCATION:
7116	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 11AR-M13 primer
7131	Unknown or Misplaced Identifier	(A) NAME/KEY:
7132	Unknown or Misplaced Identifier	(B) LOCATION:
7133	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 11BF primer
7148	Unknown or Misplaced Identifier	(A) NAME/KEY:
7149	Unknown or Misplaced Identifier	(B) LOCATION:
7150	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 11BR primer
7165	Unknown or Misplaced Identifier	(A) NAME/KEY:
7166	Unknown or Misplaced Identifier	(B) LOCATION:
7167	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 11CF primer
7182	Unknown or Misplaced Identifier	(A) NAME/KEY:
7183	Unknown or Misplaced Identifier	(B) LOCATION:
7184	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 11CR primer
7199	Unknown or Misplaced Identifier	(A) NAME/KEY:
7200	Unknown or Misplaced Identifier	(B) LOCATION:
7201	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 11DF primer
7216	Unknown or Misplaced Identifier	(A) NAME/KEY:
7217	Unknown or Misplaced Identifier	(B) LOCATION:
7218	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 11DR primer
7233	Unknown or Misplaced Identifier	(A) NAME/KEY:
7234	Unknown or Misplaced Identifier	(B) LOCATION:
7235	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 11EF primer
7250	Unknown or Misplaced Identifier	(A) NAME/KEY:
7251	Unknown or Misplaced Identifier	(B) LOCATION:
7252	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 11ER primer
7267	Unknown or Misplaced Identifier	(A) NAME/KEY:
7268	Unknown or Misplaced Identifier	(B) LOCATION:
7269	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 11FF primer
7284	Unknown or Misplaced Identifier	(A) NAME/KEY:
7285	Unknown or Misplaced Identifier	(B) LOCATION:
7286	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 11FR primer
7301	Unknown or Misplaced Identifier	(A) NAME/KEY:
7302	Unknown or Misplaced Identifier	(B) LOCATION:
7303	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 11GF primer
7318	Unknown or Misplaced Identifier	(A) NAME/KEY:

**SEQUENCE VERIFICATION REPORT**  
**PATENT APPLICATION US/09/084,471**

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 TIME: 15:53:18

**INPUT SET: S26434.raw**

Line	Error	Original Text
7319	Unknown or Misplaced Identifier	(B) LOCATION:
7320	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 11GR primer
7335	Unknown or Misplaced Identifier	(A) NAME/KEY:
7336	Unknown or Misplaced Identifier	(B) LOCATION:
7337	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 11HF primer
7370	Unknown or Misplaced Identifier	(A) NAME/KEY:
7371	Unknown or Misplaced Identifier	(B) LOCATION:
7372	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 11IF primer
7387	Unknown or Misplaced Identifier	(A) NAME/KEY:
7388	Unknown or Misplaced Identifier	(B) LOCATION:
7389	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 11IR primer
7404	Unknown or Misplaced Identifier	(A) NAME/KEY:
7405	Unknown or Misplaced Identifier	(B) LOCATION:
7406	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 11JF primer
7421	Unknown or Misplaced Identifier	(A) NAME/KEY:
7422	Unknown or Misplaced Identifier	(B) LOCATION:
7423	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: !!JR primer
7438	Unknown or Misplaced Identifier	(A) NAME/KEY:
7439	Unknown or Misplaced Identifier	(B) LOCATION:
7440	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 11KF-M13 primer
7455	Unknown or Misplaced Identifier	(A) NAME/KEY:
7456	Unknown or Misplaced Identifier	(B) LOCATION:
7457	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 11KR-M13 primer
7472	Unknown or Misplaced Identifier	(A) NAME/KEY:
7473	Unknown or Misplaced Identifier	(B) LOCATION:
7474	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 11LF primer
7489	Unknown or Misplaced Identifier	(A) NAME/KEY:
7490	Unknown or Misplaced Identifier	(B) LOCATION:
7491	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 11LR primer
7506	Unknown or Misplaced Identifier	(A) NAME/KEY:
7507	Unknown or Misplaced Identifier	(B) LOCATION:
7508	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 11MF primer
7523	Unknown or Misplaced Identifier	(A) NAME/KEY:
7524	Unknown or Misplaced Identifier	(B) LOCATION:
7525	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 11MR primer
7540	Unknown or Misplaced Identifier	(A) NAME/KEY:
7541	Unknown or Misplaced Identifier	(B) LOCATION:
7542	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 11NF-M13 primer
7557	Unknown or Misplaced Identifier	(A) NAME/KEY:
7558	Unknown or Misplaced Identifier	(B) LOCATION:
7559	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 11NR-M13 primer
7574	Unknown or Misplaced Identifier	(A) NAME/KEY:
7575	Unknown or Misplaced Identifier	(B) LOCATION:
7576	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 11OF primer
7591	Unknown or Misplaced Identifier	(A) NAME/KEY:
7592	Unknown or Misplaced Identifier	(B) LOCATION:
7593	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 11OR primer
7608	Unknown or Misplaced Identifier	(A) NAME/KEY:

**SEQUENCE VERIFICATION REPORT  
PATENT APPLICATION US/09/084,471**

 DATE: 06/04/98  
 TIME: 15:53:20
**INPUT SET: S26434.raw**

Line	Error	Original Text
7609	Unknown or Misplaced Identifier	(B) LOCATION:
7610	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 11PF primer
7625	Unknown or Misplaced Identifier	(A) NAME/KEY:
7626	Unknown or Misplaced Identifier	(B) LOCATION:
7627	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 11PR primer
7642	Unknown or Misplaced Identifier	(A) NAME/KEY:
7643	Unknown or Misplaced Identifier	(B) LOCATION:
7644	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 11QF primer
7659	Unknown or Misplaced Identifier	(A) NAME/KEY:
7660	Unknown or Misplaced Identifier	(B) LOCATION:
7661	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 11QR primer
7676	Unknown or Misplaced Identifier	(A) NAME/KEY:
7677	Unknown or Misplaced Identifier	(B) LOCATION:
7678	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 11RF primer
7693	Unknown or Misplaced Identifier	(A) NAME/KEY:
7694	Unknown or Misplaced Identifier	(B) LOCATION:
7695	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 11RR primer
7710	Unknown or Misplaced Identifier	(A) NAME/KEY:
7711	Unknown or Misplaced Identifier	(B) LOCATION:
7712	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 11SF-M13 primer
7727	Unknown or Misplaced Identifier	(A) NAME/KEY:
7728	Unknown or Misplaced Identifier	(B) LOCATION:
7729	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 11SR-M13 primer
7744	Unknown or Misplaced Identifier	(A) NAME/KEY:
7745	Unknown or Misplaced Identifier	(B) LOCATION:
7746	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 11TF primer
7761	Unknown or Misplaced Identifier	(A) NAME/KEY:
7762	Unknown or Misplaced Identifier	(B) LOCATION:
7763	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 11TR primer
7778	Unknown or Misplaced Identifier	(A) NAME/KEY:
7779	Unknown or Misplaced Identifier	(B) LOCATION:
7780	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 11UF-M13 primer
7795	Unknown or Misplaced Identifier	(A) NAME/KEY:
7796	Unknown or Misplaced Identifier	(B) LOCATION:
7797	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 11UR-M13 primer
7812	Unknown or Misplaced Identifier	(A) NAME/KEY:
7813	Unknown or Misplaced Identifier	(B) LOCATION:
7814	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 12F/M13F primer
7829	Unknown or Misplaced Identifier	(A) NAME/KEY:
7830	Unknown or Misplaced Identifier	(B) LOCATION:
7831	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 12R/M13R primer
7846	Unknown or Misplaced Identifier	(A) NAME/KEY:
7847	Unknown or Misplaced Identifier	(B) LOCATION:
7848	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 13-2F primer
7863	Unknown or Misplaced Identifier	(A) NAME/KEY:
7864	Unknown or Misplaced Identifier	(B) LOCATION:
7865	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 13-2R primer
7880	Unknown or Misplaced Identifier	(A) NAME/KEY:

**SEQUENCE VERIFICATION REPORT**  
**PATENT APPLICATION US/09/084,471**

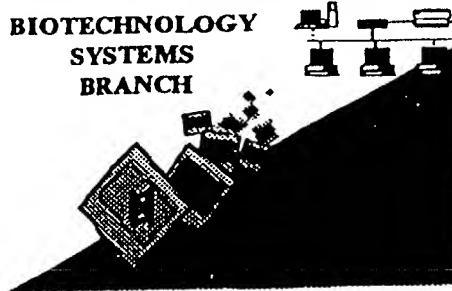
DATE: 06/04/98  
 TIME: 15:53:21

**INPUT SET: S26434.raw**

Line	Error	Original Text
7881	Unknown or Misplaced Identifier	(B) LOCATION:
7882	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 14F primer
7897	Unknown or Misplaced Identifier	(A) NAME/KEY:
7898	Unknown or Misplaced Identifier	(B) LOCATION:
7899	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 14AR primer
7914	Unknown or Misplaced Identifier	(A) NAME/KEY:
7915	Unknown or Misplaced Identifier	(B) LOCATION:
7916	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 15-2F primer
7931	Unknown or Misplaced Identifier	(A) NAME/KEY:
7932	Unknown or Misplaced Identifier	(B) LOCATION:
7933	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 15FUT/M13-R primer
7948	Unknown or Misplaced Identifier	(A) NAME/KEY:
7949	Unknown or Misplaced Identifier	(B) LOCATION:
7950	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 16AF primer
7965	Unknown or Misplaced Identifier	(A) NAME/KEY:
7966	Unknown or Misplaced Identifier	(B) LOCATION:
7967	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 16AR primer
7982	Unknown or Misplaced Identifier	(A) NAME/KEY:
7983	Unknown or Misplaced Identifier	(B) LOCATION:
7984	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 17F primer
7999	Unknown or Misplaced Identifier	(A) NAME/KEY:
8000	Unknown or Misplaced Identifier	(B) LOCATION:
8001	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 17AR primer
8016	Unknown or Misplaced Identifier	(A) NAME/KEY:
8017	Unknown or Misplaced Identifier	(B) LOCATION:
8018	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 18FUT/M13-AF primer
8033	Unknown or Misplaced Identifier	(A) NAME/KEY:
8034	Unknown or Misplaced Identifier	(B) LOCATION:
8035	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 18R/M13R primer
8050	Unknown or Misplaced Identifier	(A) NAME/KEY:
8051	Unknown or Misplaced Identifier	(B) LOCATION:
8052	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 19F/M13F primer
8067	Unknown or Misplaced Identifier	(A) NAME/KEY:
8068	Unknown or Misplaced Identifier	(B) LOCATION:
8069	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 19FUT/M13-R primer
8084	Unknown or Misplaced Identifier	(A) NAME/KEY:
8085	Unknown or Misplaced Identifier	(B) LOCATION:
8086	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 20F/M13F primer
8101	Unknown or Misplaced Identifier	(A) NAME/KEY:
8102	Unknown or Misplaced Identifier	(B) LOCATION:
8103	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 20R/M13R primer
8118	Unknown or Misplaced Identifier	(A) NAME/KEY:
8119	Unknown or Misplaced Identifier	(B) LOCATION:
8120	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 21F/M13F primer
8135	Unknown or Misplaced Identifier	(A) NAME/KEY:
8136	Unknown or Misplaced Identifier	(B) LOCATION:
8137	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 21R/M13R primer
8152	Unknown or Misplaced Identifier	(A) NAME/KEY:

**SEQUENCE VERIFICATION REPORT  
PATENT APPLICATION US/09/084,471**DATE: 06/04/98  
TIME: 15:53:23**INPUT SET: S26434.raw**

Line	Error	Original Text
8153	Unknown or Misplaced Identifier	(B) LOCATION:
8154	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 22F-1A primer
8169	Unknown or Misplaced Identifier	(A) NAME/KEY:
8170	Unknown or Misplaced Identifier	(B) LOCATION:
8171	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 22R-1A primer
8186	Unknown or Misplaced Identifier	(A) NAME/KEY:
8187	Unknown or Misplaced Identifier	(B) LOCATION:
8188	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 23FII primer
8203	Unknown or Misplaced Identifier	(A) NAME/KEY:
8204	Unknown or Misplaced Identifier	(B) LOCATION:
8205	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 23RII primer
8220	Unknown or Misplaced Identifier	(A) NAME/KEY:
8221	Unknown or Misplaced Identifier	(B) LOCATION:
8222	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 24 2F primer
8237	Unknown or Misplaced Identifier	(A) NAME/KEY:
8238	Unknown or Misplaced Identifier	(B) LOCATION:
8239	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 24R/M13R primer
8254	Unknown or Misplaced Identifier	(A) NAME/KEY:
8255	Unknown or Misplaced Identifier	(B) LOCATION:
8256	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 25F-7/23 primer
8271	Unknown or Misplaced Identifier	(A) NAME/KEY:
8272	Unknown or Misplaced Identifier	(B) LOCATION:
8273	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 25R-7/23 primer
8288	Unknown or Misplaced Identifier	(A) NAME/KEY:
8289	Unknown or Misplaced Identifier	(B) LOCATION:
8290	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 26-2F primer
8305	Unknown or Misplaced Identifier	(A) NAME/KEY:
8306	Unknown or Misplaced Identifier	(B) LOCATION:
8307	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 26-2R primer
8322	Unknown or Misplaced Identifier	(A) NAME/KEY:
8323	Unknown or Misplaced Identifier	(B) LOCATION:
8324	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 27AF-1A primer
8339	Unknown or Misplaced Identifier	(A) NAME/KEY:
8340	Unknown or Misplaced Identifier	(B) LOCATION:
8341	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 27AR/M13R primer
8356	Unknown or Misplaced Identifier	(A) NAME/KEY:
8357	Unknown or Misplaced Identifier	(B) LOCATION:
8358	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 27BF/M13F primer
8373	Unknown or Misplaced Identifier	(A) NAME/KEY:
8374	Unknown or Misplaced Identifier	(B) LOCATION:
8375	Unknown or Misplaced Identifier	(D) OTHER INFORMATION: 27BR/M13R primer



## Notice of Availability of Checker Program

### Applicant Aid for Biotechnology Computer Readable Form (CRF) Sequence Listing Submissions

The Patent and Trademark Office (PTO) has developed a computer program, called Checker, that will aid applicants in identifying and correcting errors prior to making submissions for compliance with the Requirements for Patent Applications Containing Nucleotide Sequence and/or Amino Acid Sequence Disclosures (Sequence Rules: 37CRF 1.821 through 1.825). Final rules were published in the *Federal Register* (55 FR18230) on May 1, 1990, and in the PTO *Official Gazette* (1114 Off.Gaz.PatOffice 29) on May 15, 1990.

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The software can be accessed/requested from the following locations:

- 1) Dial-up access through the Internet. Location is <ftp://ftp.uspto.gov>  
The software is in current directory: pub/checker/  
Download all the files. Cost: Free-of-charge
- 3) For diskette copies, mail to: U.S.P.T.O., OEIP, CRYSTAL PARK 3, SUITE 441  
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